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Abstracts

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In order to facilitate reference and indexing, entries are given abstract numbers which appear at the end following the symbol #. A triple numbering system is used: the first number indicates the volume, the second the issue number, and the third the sequential number within that issue. For example, the abstracts for Volume 20, Number 1, are numbered: 20.1.1, 20.1.2, 20.1.3, etc.

For reviews and abstracts published in Volumes 1 through 13 there are an *author index* in Volume 13, Number 4, and a *subject index* in Volume 14, Number 1. An online index of all abstracts that have appeared in Historia Mathematica since 1974 is now available at http://historiamathematicaabstracts.questu.ca/.

The initials in parentheses at the end of an entry indicate the abstractor. In this issue there are abstracts by Francine Abeles (Union, NJ), Timothy B. Carroll (Ypsilanti, MI), Benjamin S. Wardhaugh (Oxford), Laura Martini, Kim Plofker, and Sloan Evans Despeaux.

General

Cajori, Florian. *A History of Elementary Mathematics*. New York: Cosimo Inc, 2007. A reprinting of Cajori's 1896 original. (SED) #35.3.1

Crowe, Michael J. *Mechanics from Aristotle to Einstein*. Santa Fe, NM: Green Lion Press, 2007. A history of mechanics textbook from Aristotle to Einstein with relativity as the central theme. See the review by Thomas Sonar in *Zentralblatt MATH* 1126.01001. (TBC) #35.3.2

Enoch, J.M. Archeological optics: The very first known mirrors and lenses. *Journal of Modern Optics* **10** (9) (2007), 1221–1239. Discusses mirrors and lenses, from Turkey around 6000 BC and Egypt around 2575 BC. See the review by Philip Huddleston in *Mathematical Reviews* 2314239. (**2008d**: 78002). (BSW) #35.3.3

Folkerts, Menso; and Kühne, Andreas. *Astronomy as a Model for the Sciences in Early Modern Times*. Augsburg: ERV Dr. Erwin Rauner Verlag. Algorismus **59**, 2006, xvii+498 pp. This volume is a collection of papers from the International Symposium held in Munich on 10–12 March 2003. This contents are listed or abstracted here separately as #35.3.7; #35.3.8; #35.3.12; #35.3.43; #35.3.44; #35.3.47; #35.3.48; #35.3.49; #35.3.50; #35.3.51; #35.3.52; #35.3.54;

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#35.3.55; #35.3.56; #35.3.60; #35.3.61; #35.3.62; #35.3.63; #35.3.64; #35.3.65; #35.3.66; #35.3.67; #35.3.68; #35.3.69; #35.3.70; #35.3.71; #35.3.74; #35.3.82; and #35.3.88. (SED) #35.3.4

Gray, Jeremy J.; and Parshall, Karen Hunger, eds. *Episodes in the History of Modern Algebra (1800–1950)*. Providence, RI: American Mathematical Society; London: London Mathematical Society, 2007, viii+336 pp. This volume contains a collection of articles from a workshop held at MSRI, Berkeley, CA, USA in April 2003. These papers are abstracted here separately as #35.3.6; #35.3.97; #35.3.98; #35.3.103; #35.3.115; #35.3.116; #35.3.120; #35.3.121; #35.3.135; #35.3.141; #35.3.167; and #35.3.177. (LM) #35.3.5

Gray, Jeremy J.; and Parshall, Karen Hunger. Introduction, in #35.3.5, pp. 3–11. The authors begin with the questions "Algebra: What? When? Where?" and then discuss the chapters in the book on the history of modern algebra. See the review by Fiacre O'Cairbre in *Zentralblatt MATH* pre05212840. (LM) #35.3.6

Gropp, Harald. New planets in the solar system: Uranus, Ceres and so on, in #35.3.4, pp. 195–208. #35.3.7

Hatch, Robert A. Nature's profoundest secret: First inklings, second guesses, second thoughts, in #35.3.4, pp. 307–332. #35.3.8

Katz, Victor, ed. *The Mathematics of Egypt, Mesopotamia, China, India, and Islam: A Sourcebook*. Princeton and Oxford: Princeton University Press, 2007. This book provides English translations of important mathematical texts from the ancient and/or medieval non-Western cultures of Egypt, Mesopotamia, China, India, and Islam. These primary sources were selected and sometimes translated by experts in these five fields. These experts also provide detailed commentary for the sources. The chapters are listed here separately as #35.3.17 #35.3.23; #35.3.25; #35.3.29; and #35.3.36. (SED) #35.3.9

Kühne, Andreas. *See* #35.3.4.

O'Rourke, Keith. Meta-analytical themes in the history of statistics: 1700 to 1938. *Pakistan Journal of Statistics* **18** (2) (2002), 285–299. Traces concepts of statistical meta-analysis in the work of Laplace and Gauss in the late 1700s, and of Pearson, Fisher and Cochran in the early 20th century. (KP) #35.3.10

Parshall, Karen Hunger. *See* #35.3.5; and #35.3.6.

Rudman, Peter. *How Mathematics Happened the First 50000 Years*. Amherst, NY: Prometheus Books, 2007. A textbook on the development of counting techniques before the Babylonians and Egyptians. The author's opinions differ from those of Neugebauer. See the review by H. Guggenheimer in *Zentralblatt MATH* 1126.01002. (TBC) #35.3.11

Segre, Michael. Astronomy, astrology, and historiography, in #35.3.4, pp. 115–124. #35.3.12

Shell-Gellasch, Amy, ed. *Hands on History: A Resource for Teaching Mathematics*. Washington, DC: Mathematical Association of America, 2007, 220 pp., paperback. A collection of articles on integrating the history of mathematics into the classroom. (SED) #35.3.13

Wußing, Hans. *6000 Jahre Mathematik – 1. Von den Anfängen bis Leibniz und Newton* [*6000 Years of Mathematics – 1. From the Beginning to Leibniz and Newton*]. Besides the standard fare found in history of mathematics overviews, this volume includes discussions of ethnomathematics and the mathematics of the Aztecs, Maya, Inca, and Asian cultures. The volume covers from the origins of mathematics to the scientific revolution of the seventeenth century. (SED) #35.3.14

Mesopotamia

Britton, John P. Studies in Babylonian lunar theory. I: Empirical elements for modeling lunar and solar anomalies. *Archive for History of Exact Sciences* **61** (2) (2007), 83–145. Discusses the comprehensive mathematical lunar theories, known as System A and System B, developed, respectively, in Babylon around the beginning of the fourth century BCE and possibly near Uruk a century later. See the review by Karl-Bernhard Gundlach in *Zentralblatt MATH* 1128.01003. (SED) #35.3.15

Friberg, Jöran. *A Remarkable Collection of Babylonian Mathematical Texts. Manuscripts in the Schøyen Collection: Cuneiform Texts I*. New York: Springer, 2007. An analysis of the Babylonian mathematical tablets in the private collection of Martin Schøyen, and a comparison of their content with information from previously published texts. See the review by Karl-Bernhard Gundlach (in German) in *Zentralblatt MATH* 1125.01001. (KP) #35.3.16

Robson, Eleanor. Mesopotamian mathematics, in #35.3.9, pp. 57–186. #35.3.17

Steele, J.M. Celestial measurement in Babylonian astronomy. *Annals of Science* **64** (3) (2007), 293–325. Investigates the relationship between two measurement systems used in late Babylonian astronomical texts and the concepts of celestial longitude and latitude at work in them. (BSW) #35.3.18

India

Duke, Dennis W. The second lunar anomaly in ancient Indian astronomy. *Archive for History of Exact Sciences* **61** (2) (2007), 147–157. Investigates Indian techniques in the early Common Era and afterwards treating the second anomaly of the moon's motion. See the review by Karl-Bernhard Gundlach (in German) in *Zentralblatt MATH* 1128.01008. (KP) #35.3.19

Gupta, R.C. Indian mathematical sciences in ancient and medieval China, *Gaṇita-Bhāratī* **27** (2005), 25–63. The author gives a overview of Indian mathematics in ancient and medieval China using many references and a comparative approach. See the review by J.-C. Martzloff in *Zentralblatt MATH* 1128.01009. (SED) #35.3.20

Gupta, R.C. Yantras or mystic diagrams: A wide area for study in ancient and medieval Indian mathematics. *Indian Journal of History of Science* **42** (2) (2007), 163–204. Deals with various aspects of what may be an astronomical or surgical instrument, a machine, or a mechanical device, discussing their construction and the mathematics involved in them. (BSW) #35.3.21

Parakh, Abhishek. Āryabhaṭa's root extraction methods. *Indian Journal of History of Science* **42** (2) (2007), 149–161. Discusses the mathematical basis of these methods, the theory behind his algorithms, and their computational complexity. (BSW) #35.3.22

Plofker, Kim. Mathematics in India, in #35.3.9, pp. 385–514. #35.3.23

Smarandache, Florentin. *See* #35.3.24.

Vasantha Kandasamy, W.B.; and Smarandache, Florentin. *Vedic Mathematics. "Vedic" or "Mathematics": A Fuzzy and Neutrosophic Analysis*. Los Angeles, CA: Automaton, 2006. The authors use fuzzy and neutrosophic techniques to analyze the introduction of Vedic mathematics into the school curriculum. The reviewer is of the opinion that the book is not scientific. See the review by T. Thrivikraman in *Zentralblatt MATH* 1127.01011. (TBC) #35.3.24

China

Dauben, Joseph W. Chinese mathematics, in #35.3.9, pp. 187–384. #35.3.25

Luo, Jianjin. Tangent number: A study by Xu Youren in his book *Ce Yuan Mi Lu* [in Chinese], *Journal of Northwest University. Natural Sciences Edition* **36** (5) (2006), 853–857. This article explores the ca. 1840 work of Xu Youren (1800–1860). This work investigates infinite series expansions, especially the expansion of tangent with tangent numbers $(1, 2, 16, 272, 7936, \ldots)$. See the review by J.-C. Martzloff in *Zentralblatt MATH* 1128.01004. (SED) #35.3.26

Mode. Study of editions of Euclid's *Elements*. I [in Chinese]. *Journal of Inner Mongolia Normal University. Natural Science Edition* **35** (4) (2006), 495–498. This article discusses the 26 Chinese and Manchu language translations of Euclid's *Elements*, made between 1607 and 2003. See the review by Andrea Bréard in *Zentralblatt MATH* 1128.01005. (SED) #35.3.27

Qu, An Jing; Yuan, Min; and Tang, Quan. Exploring the astronomical meaning of some algorithms made by ancient Chinese mathematical astronomers [in Chinese]. *Studies in the History of Natural Sciences* **26** (1) (2007), 1–11. Reconstructs ancient Chinese algorithms for calculating the longitude of the sun and the lunar equation of center and discusses ancient Chinese calendar-makers' work on such algorithms. (BSW) #35.3.28

Tang, Quan. *See* #35.3.28.

Yuan, Min. *See* #35.3.28.

Islamic/Islamicate

Berggren, J. Lennart. Mathematics in medieval Islam, in #35.3.9, pp. 515–675. #35.3.29

Du, Ruizhi; and Liu, Lin. A comparative study on Al-Khwārizmī's *Algebra* and Abū Kāmil's *Algebra* [in Chinese]. *Journal of Liaoning Normal University. Natural Science Edition* **29** (3) (2006), 271–274. In *Zentralblatt MATH* 1128.01011 J.-C. Martzloff writes that this article is "a short comparison between some results found in the algebras of al-Kwārizmī and Abū Kāmil based mostly on former English translations by M. Levey, L. Karpinski and J. Berggren." (SED) #35.3.30

Liu, Lin. *See* #35.3.30.

Rashed, Roshdi. The celestial kinematics of Ibn al-Haytham. *Arabic Sciences and Philosophy* **17** (1) (2007), 7–55. This article discusses the works of al-Hasan ibn al-Haythem, including his commentary of Ptolemy, and his geometrization of celestial kinematics. See the review by Jebrel M. Habeb in *Zentralblatt MATH* 1128.01007. (SED) #35.3.31

Rashed, Roshdi, ed. *Œuvre mathématique d'al-Sijzī. Vol. I. Géométrie des coniques et théorie des nombres au X*$^{\text{e}}$ *siècle*. With original Arabic texts and French translations. Les Cahiers du MIDEO, 3. Leuven, Éditions Peeters, 2004, 541 pp. Contains al-Sijzī's writings on the geometry of conics and number theory. (BSW) #35.3.32

Sabra, A.I. The "commentary" that saved the text. The hazardous journey of Ibn al-Haytham's Arabic optics. *Early Science and Medicine* **12** (2) (2007), 117–133. Concerned with the transmission in the Islamic Arabic and Persian worlds of the Optics of Ibn al-Haytham, and a commentary upon that work. (BSW) #35.3.33

Türker, Sadik. The Arabico-Islamic background of Al-Fārābī's logic. *History and Philosophy of Logic* **28** (3) (2007), 183–255. Discusses the contribution of the Arabico-Islamic historical background to Al-Fārābī's logic, relating it to the formal structure of Arabic linguistics in particular. (BSW) #35.3.34

See also: #35.3.29.

Other non-western

Gerdes, Paulus. *Sona Geometry from Angola. Mathematics of an African Tradition*. Monza: Polimetrica, 2006, 232 pp., paperback. This book, an expanded English version of the 1993 original Portuguese edition, discusses sona geometry. Sona sand drawings were made in eastern Angola, and today this tradition is almost extinct. See the review by Jens Høyrup in *Zentralblatt MATH* 1128.01001. (SED) #35.3.35

Imhausen, Annette. Egyptian mathematics, in #35.3.9, pp. 7–56. #35.3.36

Morimoto, Mitsuo. Infinite series in Japanese mathematics of the 18th century, in: Wang, Yuefei, et al., eds., *Complex Analysis and Applications. Proceedings of the 13th International Conference on Finite or Infinite Dimensional Complex Analysis and Applications, Shantou University, Shantou, China, August 8–12, 2005* (Hackensack, NJ: World Scientific, 2006), pp. 203–217. A modern formulation, based on original sources, of the infinite series developments obtained by Seki Takakazu and Takebe Katahiro. See the review by J.-C. Martzloff in *Zentralblatt MATH* 1128.01006. (KP) #35.3.37

Antiquity

Abdulaziz, Abdulrahman A. On the Egyptian method of decomposing $\frac{2}{n}$ into unit fractions. *Historia Mathematica* **35** (1) (2008), 1–18. The author provides an elementary procedure that reproduces the decompositions of $\frac{2}{n}$ into unit fractions for odd n ranging from 5 to 101 as found in the Rhind Mathematical Papyrus. (LM) #35.3.38

Patterson, Richard. Diagrams, dialectic, and mathematical foundations in Plato. *Aperion* **40** (1) (2007), 1–33. An analysis of the relationship between the diagrams and the ideas expressed in Plato's mathematical works. See the review by H. Guggenheimer in *Zentralblatt MATH* 1125.01003. (TBC) #35.3.39

See also: #35.3.54.

Middle Ages

Basulto, Jesùs; Camúñez, Antonio José; and Ortega, Francisco Javier. Azar game in the book of the dice of Alfonso X the Learned. Its relation with the Hazard games of Montmort, Cotton, Hoyle, De Moivre and Jacob Bernoulli. *Mathématiques et Sciences Humaines* [*Mathematics and Social Sciences*] **174** (2006), 5–24. Investigates the mathematical structure and historical connections of the gambling game called Azar in the thirteenth-century *Book of Chess, Dice and Tables* of Alfonso X of Spain. (KP) #35.3.40

Camúñez, Antonio José. *See* #35.3.40.

Ortega, Francisco Javier. *See* #35.3.40.

Renaissance

Ageno, Alessio; and Pedemonte, Orietta. Ancient astrological and musical analogies in the Renaissance: Palladio's Villa Rotunda and a geometric construction by Leonardo, in: Williams, Kim, ed., *Two Cultures. Essays in Honour of David Speiser* (Basel: Birkhäuser, 2006), pp. 167–177. Relates Palladio's irrational architectural proportions in his "Villa Rotunda" plan to harmonic and geometric analogies. See the review by Eberhard Knobloch in *Zentralblatt MATH* 1128.01013. (KP) #35.3.41

Baldwin, Robert. John Dee's interest in the application of nautical science, mathematics, and law to English naval affairs, in #35.3.45, pp. 97–130. #35.3.42

Bialas, Volker. Zum Stellenwert der Astronomie im frühneuzeitlichen *globus intellectualis*, in #35.3.4, pp. 3–14. #35.3.43

Brentjes, Sonja. Astronomy a temptation? On early modern encounters across the Mediterranean Sea, in #35.3.4, pp. 15–46. #35.3.44

Clucas, Stephen, ed. *John Dee: Interdisciplinary Studies in English Renaissance Thought*. Dordrecht: Springer, 2006. A collection of interdisciplinary essays on Dee, his projects, and his collaborators. Those essays relating to the history of mathematics are listed here separately as #35.3.42; #35.3.46; #35.3.53; and #35.3.59. (SED) #35.3.45

Clulee, Nicolas H. John Dee's natural philosophy revisited, in #35.3.45, pp. 23–40. #35.3.46

Danielson, Dennis. Rheticus and the birth of trigonometry, in #35.3.4, pp. 127–142. #35.3.47

de Meis, Salvo. From Regiomontanus to Kepler: Accuracy and applications of astronomical ephemerides, in #35.3.4, pp. 399–422. #35.3.48

Dupré, Sven. Optica est ars bene videndi: From Gemma's radius to Galileo's telescope, in #35.3.4, pp. 355–368. #35.3.49

Galle, Karl. 16th-century astronomy and its professional contexts: The case of Copernicus and calendar reform, in #35.3.4, pp. 143–162. #35.3.50

Gerl, Armin. Fridericus Amann – Astronom, Kosmograph und Mathematiker der frühen Neuzeit: Seine astronomischen Arbeiten [Fridericus Amann – astronomer, cosmograph and mathematician of early modern times. His astronomical works], in #35.3.4, pp. 47–62. The author discusses the work fifteenth-century astronomer Fridericus Amann: specifically, his astronomical tables and instruments. Also considered are the possible influences of Gensfelder, Pecham, Peurbach, and Sacrobosco on Amann. See the review by Gregor Nickel in *Zentralblatt MATH* 1129.01002. (SED) #35.3.51

Gingerich, Owen. The invisible astronomical network, 1543–1600, in #35.3.4, pp. 163–174. #35.3.52

Goulding, Robert. Wings (or stairs) to the heavens: The parallactic treatises of John Dee and Thomas Digges, in #35.3.45, pp. 41–64. #35.3.53

Granada, Miguel A. Aristotle, Copernicus, Rheticus and Kepler on centrality and the principle of movement, in #35.3.4, pp. 175–194. #35.3.54

Hadrava, Petr. *See* #35.3.55.

Hadravová, Alena; and Hadrava, Petr. The Prague astronomical school in the 15th century, in #35.3.4, pp. 63–72. #35.3.55

Hallyn, Fernand. Gemma Frisius, Mathematical Practitioner and Humanist, in #35.3.4, pp. 369–. #35.3.56

Hon, Giora; and Zik, Yaakov. Geometry of light and shadow: Francesco Maurolyco (1494–1575) and the pinhole camera. *Annals of Science* **64** (4) (2007), 549–578. Discussion of the work on geometrical optics of this contemporary of Tartaglia and Cardano, emphasising the role of his studies of astronomical instruments. (BSW) #35.3.57

Høyrup, Jens. *Jacopo da Firenze's* Tractatus algorismi *and Early Italian Abbacus culture* (Italian, English). *Science Networks. Historical Studies* **34**. Basel: Birkhäuser, 2007. An English translation of Firenze's 1307 book and a discussion of the abacus literature of the 14th century. See the review by L. Borracchini in *Zentralblatt MATH* 1126.01006. (TBC) #35.3.58

Johnston, Stephen. Like father, like son? John Dee, Thomas Digges and the identity of the mathematician, in #35.3.45, pp. 65–84. #35.3.59

Kaunzner, Wolfgang. Über Schriften Georgs von Peurbach mit einem mathematischen Hintergrund [On the writings of Georg von Peurbach with a mathematical background], in #35.3.4, pp. 73–82. This article discusses the mathematical works of Georg von Peurbach (1423–1461): specifically his tables, works on geometry, astronomy and arithmetics. See the review by Gregor Nickel in *Zentralblatt MATH* 1129.01004. (SED) #35.3.60

Knobloch, Eberhard. Pedro Nuñes's contributions to the astronomy of early modern times, in #35.3.4, pp. 83–96. #35.3.61

Kraai, Jesse. The four Copernican circles and Rheticus' heliocentric providence, in #35.3.4, pp. 209–. #35.3.62

Kremer, Richard. Copernicus among the astrologers: A preliminary study, in #35.3.4, pp. 225–252. #35.3.63

Kühne, Andreas. The reception of Copernicus as reflected in biographies, in #35.3.4, pp. 253–268. #35.3.64

Lindgren, Uta. Astronomische Vorbilder für geodätische Instrumente im 16. Jahrhundert, in #35.3.4, pp. 385–399. #35.3.65

Lorch, Richard. Copernicus' trigonometry, in #35.3.4, pp. 269–274. #35.3.66

Markowski, Mieczyslaw. Astronomie als Leitwissenschaft an der Krakauer Universität in der vorkopernicanischen Zeit, in #35.3.4, pp. 103–114. #35.3.67

Pedemonte, Orietta. *See* #35.3.41.

Röttel, Karl. Apian – Scheiner – Cysat: Beiträge Ingolstädter Astronomen im 16. und 17. Jahrhundert, in #35.3.4, pp. 275–294. #35.3.68

Ruiz-Lapuente, Pilar. The *nova stella* and its observers, in #35.3.4, pp. 423–438. #35.3.69

von Mackensen, Ludolf. Die erste fest eingerichtete Sternwarte der Neuzeit in Kassel und ihre Instrumente, in #35.3.4, pp. 465–492. #35.3.70

Zik, Yaakov. *See also* #35.3.57.

17th century

Donahue, William H. Astronomy in the service of cosmology? Kepler' s arguments for a finite universe, in #35.3.4, pp. 297–306. #35.3.71

Hebrard, Pierre. La détresse des Pays-Bas: De Witt, Hudde et les rentes viagères d'Amsterdam [The financial crisis of the Netherlands: De Witt, Hudde and life annuities in Amsterdam] (1671–1673). *Mathématiques et Sciences Humaines* [*Mathematics and Social Sciences*] **166** (2004) 47–63. Investigates the rate for annuities devised by Johannes Hudde in the 1670's conflict between the Netherlands and France, and relates it to earlier work by Hudde, his colleague Johan De Witt, and Christian Huygens. (KP) #35.3.72

Hespel, Bertrand. *Outre Newton. Quelques images du monde à l'age classique* [*Beyond Newton. Some World Views in the Classical Age*]. Bern: Peter Lang, 2003. A chronological reading of works of Descartes, Newton, Spinoza, Malebranche and Leibniz, to flesh out the narrowly Newtonian physical views generally associated with this period. (KP) #35.3.73

Kunitzsch, Paul. Late traces of Arabic influence in European astronomy (17th–18th centuries), in #35.3.4, pp. 97–102. #35.3.74

Llombart, José. *See* #35.3.76.

Maierù, Luigi. Le coniche nel percorso matematico di John Wallis [Conics in John Wallis's mathematical path]. *Accademia Nazionale di Scienze Lettere e Arti di Modena – Memorie scientifiche, giuridiche, letterarie* (8) **10** (2007), 349–389. The author analyzes Wallis's treatise on conic sections *De sectionibus conicis* published in 1655. This book is discussed also in relation to Wallis's subsequent works *Arithmetica Infinitorum* (1656) and *Mathesis universalis* (1657). (LM) #35.3.75

Navarro-Loidi, Juan; and Llombart, José. The introduction of logarithms into Spain. *Historia Mathematica* **35** (2) (2008), 83–101. This article discusses the introduction of logarithms in Spain in the 17th century, their use a mainly a computational aid in the first half of the 18th century, and their subsequent deeper interpretation. (SED) #35.3.76

Ratcliff, J.R. Samuel Morland and his calculating machines c.1666: The early career of a courtier-inventor in Restoration London. *The British Journal for the History of Science* **40** (2) (2007), 159–179. Samuel Morland (1625–1695) and his machines are discussed within a wide scientific, social, and economic context. See the review by Hans Fischer in *Zentralblatt MATH* 1128.01017. (SED) #35.3.77

Stigler, Stephen M. Isaac Newton as a probabilist. *Statistical Science* **21** (3) (2006), 400–403. Discusses Newton's 1693 correspondence with Samuel Pepys concerning a gambling problem. (BSW) #35.3.78

von Collani, Elart. 2005 – the Jakob Bernoulli year. 350th anniversary of Jakob's birth and 300th anniversary of Jakob's death. *Economic Quality Control.* **20** (2) (2005), 155–169. This article discusses in particular Bernoulli's contributions towards Stochastics. (SED) #35.3.79

Wardhaugh, Benjamin. The logarithmic ear: Pietro Mengoli's mathematics of music. *Annals of Science* **64** (3) (2007), 327–348. Discusses the 1670 *Speculationi di musica* of Pietro Mengoli, focussing on its anatomical and mathematical bases. (BSW) #35.3.80

Wardhaugh, Benjamin. Musical logarithms in the seventeenth century: Descartes, Mercator, Newton. *Historia Mathematica* **35** (1) (2008), 19–36. The author analyzes three 17th-century sources which show the use of logarithms in mathematical studies of music. He also discusses the problem of finding quantitative measures for the relationships between musical intervals—defined by identification with mathematical ratios—and describes the solutions to Descartes', Mercator's, and Newton's solutions to this problem. (LM) #35.3.81

Zik, Yaakov. Mathematical instruments: The technological infrastructure of seventeenth-century science, in #35.3.4, pp. 439–464. #35.3.82

See also: #35.3.48; #35.3.49; #35.3.54; and #35.3.68.

18th century

Böttcher, Frauke. Émilie du Châtelet (1706–1749) – "Die Nachwelt wird sie mit Erstaunen betracht" [Émilie du Châtelet (1706–1749) – "The posterity will look at her with astonishment"]. *Mathematische Semesterberichte* **53** (2) (2006), 245–257. The article gives insights into the life and scientific works of Émilie du Châtelet. See the review by Immo O. Kerner in *Zentralblatt MATH* 1125.01013. (TBC) #35.3.83

Florio, Emilia. Le diverse specie di moto nel manoscritto *Physica Experimetalis Sive Scientia Naturae* (1764) di P. Simpliciano da Napoli [Different kinds of motion in the manuscript *Physica Experimetalis Sive Scientia Naturae* (1764) by P. Simpliciano da Napoli]. *Accademia Nazionale di Scienze Lettere e Arti di Modena – Memorie scientifiche, giuridiche, letterarie* (8) **10** (2007), 57–83. The paper examines those pages of Simpliciano da Napoli's manuscript, *Physica Experimetalis Sive Scientia Naturae*, devoted to the classification of the motion of bodies. (LM) #35.3.84

Juňič, Stanislav. Tables of logarithms in Ljubljana in the time of Georg Vega's study [in Slovenian]. *Obzornik za Matematiko in Fiziko* **50** (1) (2003), 21–26. Slovenian mathematician Jurij (Georg) Vega, who in the late 18th century published high-quality logarithm tables, was schooled in Ljubljana; this article investigates the logarithm tables available to him during his studies and their influence on his interest in the subject. (KP) #35.3.85

Krylov, A.N. *Euler. On the Occasion of his 300th Birthday*, trans. N.G. Kuznetsov. Sankt-Peterburg: Orgkomitet Mezhdunarodnogo Matematicheskogo Kongressa v Oznamenovanie 300-Letiya so dnya Rozhdeniya Leonarda Euilera, 105 pp., paperback. This book presents in English and Russian a talk given by Krylov on 5 October 1933 at a special session of the USSR Academy of Sciences. It also includes a chronologically-arranged bibliography of 317 works by and about Euler. See the review by Radoslav M. Dimitrić in *Zentralblatt MATH* 1128.01019. (SED) #35.3.86

Kuznetsov, N.G. *See* #35.3.86.

Strnad, Janez. Vega on the form of the earth [in Slovenian]. *Obzornik za Matematiko in Fiziko* **50** (1) (2003), 27–32. Focuses on the publication, near the turn of the 19th century, of a work on the mathematical physics of the earth's rotation by Slovenian mathematician, engineer and artillery expert Jurij Vega. (KP) #35.3.87

Verdun, Andreas. Methods of modern exact sciences in the astronomical works of Leonhard Euler, in #35.3.4, pp. 333–352. #35.3.88

Xu, Chuansheng. Study on Jacob Bernoulli's *Art of Conjecturing* [in Chinese]. *Journal of Mathematical Research & Exposition* **27** (1) (2007), 212–218. Analysis of the *Ars Conjectandi*, a foundational text in probability, focusing on Bernoulli's innovations such as the law of large numbers and Bernoulli's number. (KP) #35.3.89

See also: #35.3.10; #35.3.37; #35.3.74; and #35.3.76.

19th century

Abel, Niels Henrik. *Abel on Analysis. Papers of N. H. Abel on Abelian and Elliptic Functions and the Theory of Series*. Translated from the French by Philip Horowitz. Heber City, UT: Kendrick Press, 2007. This translation of the 1881 second edition contains Abel's papers on his theorem, the theory of series and elliptic functions as well as thoughts on their originality and influence. See the review by Teodora-Liliana Rădulescu in *Zentralblatt MATH* 1127.01016. (TBC) #35.3.90

Belna, Jean-Pierre. *Cantor*. Paris: Les Belles Lettres, 2003, 239 pp. Reprint of the 2000 original; covers Cantor's relationships with Kronecker, Dedekind and Mittag-Leffler, as well as his mathematical work and philosophical ideas. (BSW) #35.3.91

Bowler, Peter. James Thomson and the culture of a Victorian engineer, in #35.3.101, pp. 56–63. #35.3.92

Capecchi, Danilo; and Ruta, Giuseppe C. Piola's contribution to continuum mechanics. *Archive for History of Exact Sciences* **61** (4) (2007), 303–342. Examines the most important papers of Gabrio Piola and compares them with those of Cauchy, Poisson and Kirchhoff, his contemporaries. (BSW) #35.3.93

Craik, Alex D.D. Educating William: Belfast, Glasgow and Cambridge, in #35.3.101, pp. 23–43. #35.3.94

Crossland, Bernard. Kelvin and engineering, in #35.3.101, pp. 140–159. #35.3.95

Delmas, Bernard. Pierre-Françis Verhulst et la logistique de la population [Pierre-Françis Verhulst and the logistic law of population]. *Mathématiques et Sciences Humaines* [*Mathematics and Social Sciences*] **167** (2004), 51–82. Examines early attempts by Verhulst, a disciple of Quetelet, to formalize the dynamics of populations in the 1830s. (KP) #35.3.96

Despeaux, Sloan Evans. Very full of symbols: Duncan F. Gregory, the calculus of operations, and the *Cambridge Mathematical Journal*, in #35.3.5, pp. 49–72. The author considers the role of the *Cambridge Mathematical Journal* and its editor, Duncan F. Gregory, in the development of the calculus of operations in Britain in the 1830s and 1840s. Through the journal, junior mathematicians engaged in a conversation about the calculus of operations, a topic central to development of the British approach to algebra. (LM) #35.3.97

Edwards, Harold M. Kronecker's fundamental theorem of general arithmetic, in #35.3.5, pp. 107–116. This paper discusses L. Kronecker's 1887 paper in which the German mathematician proposed to replace the "fundamental theorem of algebra" by a new "fundamental theorem of general arithmetics." The author analyzes Kronecker's theorem and reconstructs the steps that led E. Galois to results that influenced Kronecker's work. See the review by Albert C. Lewis in *Zentralblatt MATH* pre05212844. (LM) #35.3.98

Everitt, C.W. Francis. Kelvin, Maxwell, Einstein and the ether – Who was right about what?, in #35.3.101, pp. 224–252. #35.3.99

Ferraro, Giovanni. The foundational aspects of Gauss's work on the hypergeometric, factorial and digamma functions. *Archive for History of Exact Sciences* **61** (5) (2007), 457–518. In *Zentralblatt MATH* 1128.01020, Franz Lemmermeyer writes that the author "explains in detail how Gauss's notion of functions (and related notions like limits, convergence, etc.) differed from those used by 18th century mathematicians like Euler." (TBC) #35.3.100

Flood, Raymond; McCartney, Mark; and Whitaker, Andrew, eds. *Kelvin: Life, Labours and Legacy*. Oxford: Oxford University Press, 2008, 376 pp., hardback. This volume is a collection of articles about the life and contributions of Sir William Thomson, later known as Lord Kelvin (1824–1907). Kelvin, one of the greatest Victorian physicists, engaged in both theoretical and practical research and worked actively within both the academic and industrial worlds. The chapters in this volume are listed separately as #35.3.92; #35.3.94; #35.3.95; #35.3.99; #35.3.102; #35.3.104; #35.3.105; #35.3.108; #35.3.110; #35.3.112; #35.3.114; #35.3.117; #35.3.119; #35.3.124; #35.3.125; and #35.3.127. (SED) #35.3.101

Flood, Raymond. Thomson and Tait: The treatise on natural philosophy, in #35.3.101, pp. 175–191. #35.3.102

Frei, Günther. Developments in the theory of algebras over number fields: A new foundation for the Hasse norm residue symbol and new approaches to both the Artin reciprocity law and class field theory, in #35.3.5, pp. 117–151. The author, after reviewing the main events that led from W.R. Hamilton's discovery of quaternions in 1843 to the publication of L.E. Dickson's works on algebras of 1923 and 1927, discusses the influence that these results had on H. Hasse's research as well as on the work of E. Artin, E. Noether, A.A. Albert, and R. Brauer. In particular, the influence on Hasse's new approach to norm residue symbol and to class field theory is analyzed. See the review by Ülo Lumiste in *Zentralblatt MATH* pre05212845. (LM) #35.3.103

Garber, Elizabeth. Kelvin on atoms and molecules, in #35.3.101, pp. 192–211. #35.3.104

Grattan-Guinness, Ivor. On the early work of William Thomson: Mathematical physics and methodology in the 1840s, in #35.3.101, pp. 44–55. #35.3.105

Gray, Jeremy. Enriques: Popularising science and the problems of geometry, in #35.3.146, pp. 135–154. #35.3.106

Horowitz, Philip. *See* #35.3.90.

Hyder, David. Kant, Helmholtz and the determinacy of physical theory, in #35.3.146, pp. 1–44. #35.3.107

Jackson, Patrick N. Wyse. William Thomson's determinations of the age of the Earth, in #35.3.101, pp. 160–174. #35.3.108

Kent, Deborah. *The Mathematical Miscellany* and *The Cambridge Miscellany of Mathematics*: Closely connected attempts to introduce research-level mathematics in America, 1836–1843. *Historia Mathematica* **35** (2) (2008), 102–122. This article discusses the early mathematical journalistic attempts in America: in particular, *The Mathematical Miscellany* and *The Cambridge Miscellany of Mathematics*. While these two journals significantly predated the first sustained mathematical journal in America, the *American Journal of Mathematics* founded in 1878, they held lofty goals of promoting research in mid-nineteenth-century America. The content, goals, and connections between the two journals are analyzed. (SED) #35.3.109

Latimer, Colin. Kelvin and the development of science in Meiji Japan, in #35.3.101, pp. 212–223. #35.3.110

Lützen, Jesper. A mechanical image: Heinrich Hertz's principles of mechanics, in #35.3.146, pp. 45–64. #35.3.111

McCartney, Mark. William Thomson: An introductory biography, in #35.3.101, pp. 1–22. #35.3.112

McCartney, Mark. *See also* #35.3.101.

Mercurio, Anna Maria; and Palladino, Nicla. Intorno alla risoluzione delle equazioni algebriche di quinto grado per funzioni ellittiche in Betti e Brioschi [On Betti's and Brioschi's solution of algebraic quintic equations by means of elliptic functions]. *Accademia Nazionale di Scienze Lettere e Arti di Modena – Memorie scientifiche, giuridiche, letterarie* (8) **10** (2007), 391–441. This paper analyzes the solution of algebraic equations of degree five in the work of Enrico Betti, Charles Hermite, Leopold Kronecker, and Francesco Brioschi. The authors focus on mathematical developments in the period between 1850 and 1860 through a discussion of published articles and personal correspondence. (LM) #35.3.113

Morus, Iwan Rhys. "A dynamical form of mechanical effect": Thomson's thermodynamics, in #35.3.101, pp. 122–139. #35.3.114

Neumann, Olaf. Divisibility theories in the early history of commutative algebra and the foundations of algebraic geometry, in #35.3.5, pp. 73–105. The author discusses the origins and the role that divisibility theory played in nineteenth-century commutative algebra. He analyzes divisibility theories along two lines of research: the work on principal ideal domains of Weierstrass, Kronecker, Zolotarev, Hensel, Weber, König, and Krull, and Dedekind's theory of ideals and the research of Hilbert, Hurwitz, Mertens, Lasker, Macaulay, and Noether. See the review by Ülo Lumiste in *Zentralblatt MATH* pre05212843. (LM) #35.3.115

Ortiz, Eduardo L. Babbage and French *Idéologie*: Functional equations, language, and the analytical method, in #35.3.5, pp. 13–47. The author analyzes the conception of mathematics as a language in France in the 18th and early 19th century and how Babbage applied this French work to his research in functional equations. See the review by Fiacre O'Cairbre in *Zentralblatt MATH* pre05212841. (LM) #35.3.116

Palladino, Nicla. *See* #35.3.113.

Penrose, Oliver. Kelvin and statistical mechanics, in #35.3.101, pp. 253–277. #35.3.117

Polo-Blanco, Irene. Alicia Boole Stott, a geometer in higher dimension. *Historia Mathematica* **35** (2) (2008), 123–139. This article discusses the life and work of the self-taught Irish geometer Alicia Boole Stott. Her collaboration with University of Groningen professor of geometry, P.H. Schoute is discussed, along with that of geometer H.S.M. Coxeter. (SED) #35.3.118

Roche, John. Concepts and models of the magnetic field, in #35.3.101, pp. 94–121. #35.3.119

Ruta, Giuseppe C. *See* #35.3.93.

Schwermer, Joachim. Minkowski, Hensel, and Hasse: On the beginnings of the local-global principle, in #35.3.5, pp. 153–177. This paper focuses on the work of mathematicians Hermann Minkowski, Kurt Hensel, and Helmut Hasse. In particular, after presenting Minkowski's results on rational quadratic forms and Hensel's and Hasse's contributions to the theories of p-adic numbers and quadratic forms respectively, the author discusses Hasse's work on the local-global principle and documents how his mathematics provides valuable insight into the mathematician. See the review by Ülo Lumiste in *Zentralblatt MATH* pre05212846. (LM) #35.3.120

Slembek, Silke. On the arithmetization of algebraic geometry, in #35.3.5, pp. 285–300. This paper analyzes the arithmetization of algebraic geometry from the original texts. It focuses on the mathematical factors that influenced the process of arithmetization such as the theory of singularities of algebraic surfaces and the theorem of reduction of singularities. See the review by Teodora-Liliana Rădulescu in *Zentralblatt MATH* 1130.14002. (LM) #35.3.121

Tamari, Dov. *Moritz Pasch (1843–1930). Vater der modernen Axiomatik. Seine Zeit mit Klein und Hilbert und seine Nachwelt. Eine Richtigstellung* [*Moritz Pasch (1843–1930). The Father of Modern Axiomatics. His Time with Klein and Hilbert and his Posterity. A Correction*]. Aachen: Shaker, xxii+334 pp., hardback. This book, published after the author's death, seeks to reassert Moritz Pasch's role in the foundation of axiomatics. As a teenager, the author aided the then nearly blind Pasch with clerical work. See the review by Reinhard Siegmund-Schultze in *Zentralblatt MATH* 1128.01026. (SED) #35.3.122

Toti Rigatelli, Laura. Cesare Arzelà e Renato Caccioppoli [Cesare Arzelà and Renato Caccioppoli]. *Accademia Nazionale di Scienze Lettere e Arti di Modena – Memorie scientifiche, giuridiche, letterarie* (8) **10** (2007), 135–138. The author presents a brief report of Cesare Arzelà's lectures on Galois theory (1886–1887) and points out that, despite the fact that he held the chair of group theory at the University of Naples in 1934, Renato Caccioppoli never taught Galois theory. (LM) #35.3.123

Weaire, Denis. Kelvin and Fitzgerald: Great Irish physicists, in #35.3.101, pp. 86–93. #35.3.124

Whitaker, Andrew. Kelvin – The legacy, in #35.3.101, pp. 278–306. #35.3.125

Whitaker, Andrew. *See also* #35.3.101.

Wolfson, Paul R. George Boole and the origins of invariant theory. *Historia Mathematica* **35** (1) (2008), 37–46. The author argues that Arthur Cayley's reaction to George Boole's papers in 1841 and 1842 played a large if not larger role in the foundation of the British approach to invariant theory than Boole's papers themselves. (SED) #35.3.126

Wood, Alastair. Fifty-eight years of friendship: Kelvin and Stokes, in #35.3.101, pp. 64–85. #35.3.127

See also: #35.3.146.

20th century

Arribas, José M. Les débuts de la statistique mathématique en Espagne [The rise of mathematical statistics in Spain] (1914–1936). *Mathématiques et Sciences Humaines* [*Mathematics and Social Sciences*] **166** (2004), 25–46. Surveys the institutionalization of the discipline of mathematical statistics and its development in mathematical physics and econometrics in early twentieth-century Spain. (KP) #35.3.128

Babich, V.M. *See* #35.3.160.

Berndt, Rolf; and Riemenschneider, Oswald, eds. *Erich Kähler: Mathematische Werke*. Berlin: Walter de Gruyter & Co., 2003, x+971 pp. Contains most of the published mathematical work of Erich Kähler (1906–2000), best known for the Kähler metrics, with a selection of his other writing; also some introductory articles on his life, influence and personality; and some commentaries. See the review by G.K. Sankaran in *Mathematical Reviews* 2229234 (**2008d**:32001). (BSW) #35.3.129

Bhatia, Rajendra. Spectral variation, normal matrices, and Finsler geometry. *Mathematical Intelligencer* **29** (3) (2007), 41–46. The short Hoffman Wielandt theorem, one of the best known theorems in linear algebra appeared in 1953. The author develops it in both a mathematical and an historical context. For the former, he presents five theorems

and their proofs; for the latter, he discusses Wielandt's activities in Germany in the period 1929–1945. Additionally, he includes relevant work by other mathematicians both immediately before and after this period. (FA) #35.3.130

Breiteig, Trygve. Johan Arndt Eiesland: A mathematician from Kristiansand who emigrated to the USA, in #35.3.182, pp. 175–196. #35.3.131

Ciesielski, Krzysztof. On Stefan Banach and some of his results. *Banach Journal of Mathematical Analysis* **1** (1) (2007), 1–10. Brief discussion of Banach's life and contributions to mathematics, with some stories about him. (BSW) #35.3.132

Corry, Leo. Fermat comes to America: Harry Schultz Vandiver and FLT (1914–1963). *Mathematical Intelligencer* **29** (3) (2007), 30–40. A richly detailed story of a neglected self-trained mathematician who became the world's leading expert on Fermat's Last Theorem (FLT). He was an indefatigable calculator who devoted his entire professional life to its solution. Although his work did not contribute to the general solution of FLT, it is important to the history of the problem. (FA) #35.3.133

Cruse, Pierre. Empiricism and Ramsey's account of theories, in #35.3.162, pp. 105–122. #35.3.134

Curtis, Charles W. Emmy Noether's 1932 ICM lecture on noncommutative methods in algebraic number theory, in #35.3.5, pp. 199–220. The author discusses Emmy Noether's plenary lecture delivered at the International Congress of Mathematicians held in Zürich on 7 September 1932 and presents related contributions. The author focuses on Noether's idea of using noncommutative methods in commutative algebra and in algebraic number theory. See the review by Roman Murawski in *Zentralblatt MATH* 1128.01021. (LM) #35.3.135

Disalle, Robert. Mathematical structure, "World Structure," and the philosophical turning-point in modern physics, in #35.3.146, pp. 207–230. #35.3.136

Duncan, Anthony; and Janssen, Michel. On the verge of Umdeutung in Minnesota: van Vleck and the correspondence principle. I. *Archive for History of Exact Sciences* **61** (6) (2007), 553–624. This article and its sequel (see #35.3.138) discuss an 1924 *Physical Review* paper by John H. van Vleck of the University of Minnesota. The authors examine this paper's pivotal role in the birth of matrix mechanics. See the review by Roman Duda in *Zentralblatt MATH* 1129.01008. (SED) #35.3.137

Duncan, Anthony; and Janssen, Michel. On the verge of Umdeutung in Minnesota: van Vleck and the correspondence principle. II. *Archive for History of Exact Sciences* **61** (6) (2007), 625–671. Gives detailed derivations for classical formulae for the dispersion, emission, and absorption of radiation and their quantum counterparts in both early twentieth-century and modern terms. (BSW) #35.3.138

Edgington, Dorothy. Ramsey's legacies on conditionals and truth, in #35.3.162, pp. 37–52. #35.3.139

Fenster, Della D.; and Schwermer, Joachim. Beyond class field theory: Helmut Hasse's arithmetic in the theory of algebras in early 1931. *Archive for History of Exact Sciences* **61** (5) (2007), 425–456. The authors study Hasse's progress in the theory of algebras, explain mathematical background from class field theory and examine his correspondence with Emmy Noether. See the review by Franz Lemmermeyer in *Zentralblatt MATH* 1128.01022. (TBC) #35.3.140

Fenster, Della Dumbaugh. Research in algebra at the University of Chicago: Leonard Eugene Dickson and A. Adrian Albert, in #35.3.5, pp. 179–197. The author presents and analyzes Leonard Dickson's and A. Adrian Albert's research in algebra at the University of Chicago in the context of the research activity of American and German mathematicians working on the theory of algebras and on algebras over algebraic number fields, respectively. The paper also discusses how these groups of mathematicians interacted and came up with the solution of one of the main problems in twentieth-century mathematics. See the review by Roman Murawski in *Zentralblatt MATH* 1128.01023. (LM) #35.3.141

Freire, Olival, Jr. Philosophy enters the optics laboratory: Bell's theorem and its first experimental tests (1965–1982). *Studies in History and Philosophy of Science. Part B. Studies in History and Philosophy of Modern Physics* **37** (4) (2006), 577–616. Deals with theory and experiment in quantum optics in a period when the boundaries between philosophy and physics were changing. (BSW) #35.3.142

Freund, Peter. *A Passion for Discovery*. Hackensack, NJ: World Scientific, 2007, xvi+221 pp. Various stories about physicists and mathematicians, including Einstein, Feynman, and many others. See the review by Sanford L. Segal in *Zentralblatt MATH* 1129.01015. (BSW) #35.3.143

Friedman, Robert Marc. Nansen, national honour and the rise of Norwegian polar geophysics, in #35.3.182, pp. 85–110. #35.3.144

Goldstein, Rebecca. *Incompleteness. The Proof and Paradox of Kurt Gödel*. New York: W.W. Norton & Company, 2005. A biography written for non-mathematicians. See the review by Boris Schein in *Zentralblatt MATH* 1127.01012. (TBC) #35.3.145

Gustavo, N. *See* #35.3.175.

Hendricks, Vincent F; Jorgensen, Klaus Frovin; Lützen, Jesper; and Pedersen, Stig Andur, eds. *Interactions: Mathematics, Physics and Philosophy, 1860–1930*. Dordrecht: Springer, 2006. This collection explores the interactions between mathematics, physics, and philosophy unique to the beginning of the 20th century. Physicists and mathematicians including Lorentz, Einstein, Poincaré, Minkowski, Hilbert, and Weyl are discussed. The chapters are listed separately as #35.3.106; #35.3.107; #35.3.111; #35.3.136; #35.3.149; #35.3.165; #35.3.170; #35.3.174; #35.3.179; #35.3.183. (SED) #35.3.146

Idlis, G.M., ed. *Studies in the History of Physics and Mechanics 2003* [in Russian]. Moscow: "Nauka", 2003, 360 pp. Many of the papers are from a conference on Dirac and E. Vigner; others are on Aleksandr Adol′fovich Vitt, and O.D. Khvol′son and other topics. The papers, all in Russian, are listed in *Mathematical Reviews* 2321839. (**2008d**:01001). (BSW) #35.3.147

Jaffe, Arthur M. The millennium grand challenge in mathematics. *Notices of the American Mathematical Society* **53** (6) (2006), 652–660. A personal discussion of the Millennium Prize Problems and the founding of the Clay Mathematics Institute, by the mathematician who worked with Clay on these two projects. See the review by Silke Göbel in *Zentralblatt MATH* 1130.01012. (BSW) #35.3.148

Janssen, Michel; and Mecklenburg, Matthew. From classical to relativistic mechanics: Electromagnetic models of the electron, in #35.3.146, pp. 65–134. #35.3.149

Janssen, Michel. *See also* #35.3.137; and #35.3.138.

Johansen, Nils Voje. Einstein's visit to Norway, in #35.3.181, pp. 65–82. This paper discusses Einstein's 13–22 June 1920 visit to Kristiania University. He lectured there at the invitation of the Student Association in Kristiania. With this visit, Norway became on of the first countries in which Einstein lectured on his Special and General Theories of Relativity. See the review by Ülo Lumiste in *Zentralblatt MATH* 1129.01017. (SED) #35.3.150

Jorgensen, Klaus Frovin. *See* #35.3.146.

Jung, Tobias. "Don't you think it is very exiting?"—ein Beitrag zur Untersuchung des Hintergrunds der Entstehung des rotierenden Gödel-Universums ["Don't you think it is very exciting?"—a contribution to research on the background of the development of the rotating Gödel universe]. *Berichte zur Wissenschaftsgeschichte* **29** (4) (2006), 325–340. Discusses possible sources for Gödel's 1949 paper on relativistic world models, suggesting that Einstein himself was the source. (BSW) #35.3.151

Kähler, Erich. *See* #35.3.129.

Kalleberg, Tomas. The institutional side of the internationalisation of Norwegian mathematics around 1900, in #35.3.182, pp. 133–146. #35.3.152

Karzel, Helmut. Emanuel Sperner: Begründer einer neuen Ordnungstheorie [Emanuel Sperner: Founder of a new order theory]. *Mitteilungen der Mathematischen Gesellschaft in Hamburg* **25** (2006), 33–44. Describes Sperner's order theory for affine and projective spaces. See the review by Franz Lemmermeyer (in German) in *Zentralblatt MATH* 1127.01013. (KP) #35.3.153

Karzel, Helmut. Emanuel Sperner: Leben und Werk [Emanuel Sperner: Life and work]. *Mitteilungen der Mathematischen Gesellschaft in Hamburg* **25** (2006), 23–32. Biographical sketch of the mid-20th-century combinatorial

theorist Emanual Sperner. See the review by Franz Lemmermeyer (in German) in *Zentralblatt MATH* 1127.01014. (KP) #35.3.154

Kolmogorov, A.N. *Selected Works. Vol. 1. Mathematics and Mechanics* [in Russian]. Shiryaev, A.N., ed.; compiled by V.M. Tikhomirov. Moscow: Nauka, 2005. A selection of papers (chosen by Kolmogorov himself) on trigonometric and orthogonal series, descriptive set theory, measure and integral theories, functional analysis, approximation theory, compositions of functions, mathematical logic, differential equations, geometry and topology, as well as classical mechanics and turbulence theory. The second and third volumes are abstracted in #35.3.156 and #35.3.157 respectively. (KP) #35.3.155

Kolmogorov, A.N. *Selected Works. Vol. 2. Probability Theory and Mathematical Statistics* [in Russian]. Shiryaev, A.N., ed. Moscow: Nauka, 2005. A selection of papers (chosen by Kolmogorov himself) on probability theory (foundations, limit theorems, random processes, and various applications) and mathematical statistics. (KP) #35.3.156

Kolmogorov, A.N. *Selected works. Vol. 3. Information theory and the theory of algorithms* [in Russian]. Shiryaev, A.N., ed. Moscow: Nauka, 2005. Includes papers on information theory, complexity theory, and algorithm theory and their applications. Volumes 1 and 2 are summarized in *Zentralblatt MATH* 1126.11022 and *Zentralblatt MATH* 1126.11023 respectively. (KP) #35.3.157

Kragh, Helge. The reception of the new physics among Norwegian physicists, in #35.3.182, pp. 25–44. #35.3.158

Krömer, Ralf. *Tool and Object. A History and Philosophy of Category Theory*, *Science Networks. Historical Studies*, **32**. Basel: Birkhäuser Verlag, 2007, xxxvi+367 pp. An extensive interpretation of category theory, pioneering a new historical and philosophical perspective on the subject. See the review by Colin McLarty in *Mathematical Reviews* 2272843 (**2008d**: 01013). (BSW) #35.3.159

Ladyzhenskaya, O.A.; and Babich, V.M., eds. *Vladimir Ivanovich Smirnov (1887–1974)* [in Russian]. Moscow: Nauka, 2006. Biographical and bibliographical information on Smirnov, including a complete list of his publications, which also serves as a history of applied analysis in the USSR during 1920–1970. See the review by Werner H. Schmidt in *Zentralblatt MATH* 1128.01027. (KP) #35.3.160

Lie, Einar. The emergence of sampling surveys in Norway, in #35.3.182, pp. 147–166. #35.3.161

Lillehammer, Hallvard; and Mellor, D.H., eds. *Ramsey's Legacy. Revised Papers from the Frank Ramsey Centenary Conference held at Newnham College, Cambridge, UK, June 30–July 2, 2003*. Oxford: Oxford University Press, 2005. Papers on the work and legacies of Frank Plumpton Ramsey (1903–1930). See the review by Jim Mackenzie in *Zentralblatt MATH* 1128.01025 (the papers are not reviewed individually). The papers related to the history of mathematics are listed here separately as #35.3.134; #35.3.139; #35.3.163; #35.3.169; and #35.3.185. (KP) #35.3.162

Lützen, Jesper. *See also* #35.3.146.

MacBride, Fraser. Ramsey on universals, in #35.3.162, pp. 83–104. #35.3.163

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The author focuses on Weil conjectures and on Abelian categories and analyzes Grothendieck's notion of "scheme." See the review by Cristina Irimia in *Zentralblatt MATH* 1129.01011. (LM) #35.3.167

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Ogawa, Hidemitsu. Sampling theory and Isao Someya: A historical note. *Sampling Theory in Signal and Image Processing* **5** (3) (2006), 247–256. Introduces Someya and his simultaneous discovery of Shannon's sampling theorem in 1949. (BSW) #35.3.168

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Potter, Michael. Ramsey's transcendental argument, in #35.3.162, pp. 71–82. #35.3.169

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Roquette, Peter. The Riemann hypothesis in characteristic p, its origin and development. II. The first steps by Davenport and Hasse. *Mitteilungen der Mathematischen Gesellschaft in Hamburg* **23** (2) (2004), 5–74. In the second of a three-part series on the Riemann hypothesis in characteristic p (the first part was abstracted here as #32.1.109 and the third is abstracted as #35.3.173), the author describes the efforts of Harold Davenport and Helmut Hasse. (SED) #35.3.172

Roquette, Peter. The Riemann hypothesis in characteristic p, its origin and development. III. The elliptic case. *Mitteilungen der Mathematischen Gesellschaft in Hamburg* **25** (2006), 103–176. In *Mathematical Reviews* 2309232 (**2008d**:11097), Ambrus Pál reviews "the third part of a series of papers written by the author on the history of the proof of the Riemann hypothesis for zeta functions of function fields of transcendence degree one over a finite field" (the first part was abstracted here as #32.1.109 and the second is abstracted as #35.3.172). Using Hasse's correspondence and lecture notes as well as his published papers, the author describes Hasse's second proof of the conjecture for elliptic curves. (SED) #35.3.173

Rowe, David E. Einstein's allies and enemies: Debating relativity in Germany, 1916–1920, in #35.3.146, pp. 231–280. #35.3.174

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Sánchez-Ron, José. From the private to the public: the road from Zurich (1897) to Madrid (2006), in: Sanz-Solé, Marta; Soria, Javier; Varona, Juan Luis; and Verdera, Joan, eds. *International Congress of Mathematicians. Vol. I.* Zürich: European Mathematical Society, 2007, x+834 pp., pp. 777–793. Reviews the history of the International Congresses of Mathematicians, including political scientific and personal events. See the review by Antonín Slavík in *Zentralblatt MATH* 1126.01017. (BSW) #35.3.176

Schappacher, Nobert. A historical sketch of B.L. van der Waerden's work in algebraic geometry: 1926–1946, in #35.3.5, pp. 245–283. This article discusses B.L. van der Waerden's work in algebraic geometry in the period between 1926 and 1946, and analyzes the five disciplinary practices of algebraic geometry which had settled by the year 1947. See the review by Cristina Irimia in *Zentralblatt MATH* 1129.01012. (LM) #35.3.177

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Scholz, Erhard. The changing concept of matter in H. Weyl's thought, 1918–1930, in #35.3.146, pp. 281–306. #35.3.179

Schröder, Eberhard. Emanuel Sperners Forschungsbeiträge zur Spiegelungsgeometrie [Emanuel Sperner's research contributions to geometry of reflections]. *Mitteilungen der Mathematischen Gesellschaft in Hamburg* **25** (2006), 45–56. The importance and influence of Emanuel Sperner's work on the development of axial symmetry based axiomatizations of elementary absolute geometry is given. See the review by Siegfried J. Gottwald in *Zentralblatt MATH* 1125.01017. (TBC) #35.3.180

Schwermer, Joachim. *See also* #35.3.140.

Shiryaev, A.N. *See* #35.3.155; #35.3.156; and #35.3.157.

Siegmund-Schultze, Reinhard; and Sørensen, H. Kragh, eds. *Perspectives on Scandinavian Science in the Early Twentieth Century*. Oslo: Novus Press, 2006, 348 pp., paperback. This volume of 16 papers and introduction stemmed from the conference, "Science in Scandinavia around 1905," held in Kristiansand, Norway, in May 2005. Not only was 1905 the year in which Einstein published on the photoelectric effect, Brownian motion, and special relativity, but it was the year in which the Swedish-Norwegian union was dissolved. This collection considers the impact of both of these events on science in Scandinavia, especially Noway. The papers are listed or abstracted here separately as #35.3.131; #35.3.144; #35.3.150; #35.3.152; #35.3.158; #35.3.161; #35.3.171; #35.3.182; and #35.3.184. See the review by Annette Lykknes in *Centaurus* **49** (3) (2007), 253–254, and by Jesper Lützen in this journal. (SED) #35.3.181

Siegmund-Schultze, Reinhard; and Sørensen, Henrik Kragh. Perspectives on Scandinavian science in the early twentieth century: an introduction. Biography of further reading, in #35.3.181, pp. 11–22. In this introduction to the volume, the editors outline the factors that set Scandinavia apart from the rest of Europe in regards to science and technology. A four-page biography for further reading is also included. See the review by Ülo Lumiste in *Zentralblatt MATH* 1129.01013. (SED) #35.3.182

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Tischel, Gerhard. *See* #35.3.186.

Wefelsheid, Heinrich; and Tischel, Gerhard. Appendix zum Artikel von Zeitler: Mathematiker und Mathematikunterricht [Appendix to the article by H. Zeitler: Mathematicians and mathematical education: The didact Emanuel Sperner]. *Mitteilungen der Mathematischen Gesellschaft in Hamburg* **25** (2006), 15–21. An article about famous German mathematicians of the first half of the twentieth century, the textbooks they wrote and their interest in mathematics education. See the review by Gregor Nickel in *Zentralblatt MATH* 1127.01011. (TBC) #35.3.186

Zeitler, H. Der Didaktiker Emanuel Sperner [The didact Emanuel Sperner]. *Mitteilungen der Mathematischen Gesellschaft in Hamburg* **25** (2006), 5–13. The author presents three important aspects of mathematics education that E. Spencer exemplifies: Concrete Didactics, Abstract Didactics, Didactics and Publicity. See the review by Silke Söbel in *Zentralblatt MATH* 1125.01018. (TBC) #35.3.187

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